

## CLAIMS

1. (Currently Amended) A computer-readable medium storing computer-executable instructions for providing a subscribe-notify service with virtual connectivity to perform a method on a computing device comprising:

receiving at least one network attachment point change event subscription from at least one network attachment point change event subscriber, network attachment point change events comprising an indication of a change in a network address of a device on a network from an original network attachment point having an original network attachment point identification to a current network attachment point having a current network attachment point identification;

receiving at least one network attachment point change event publication from at least one network attachment point change event publisher, the network attachment point change event publication comprising an identification of an original network attachment point and an identification of a current network attachment point that is different from the original network attachment point, wherein the identification of the original network attachment point and the identification of the current attachment point is synchronized with an entry in a local connection translation table stored locally on a remote peer; and

for each network attachment point change event publication matching a network attachment point change event subscription, notifying the network attachment point change event subscriber of the matching published network attachment point change event, wherein an application layer continuously refers to a current attachment point on the network by using an original network attachment point identification identification

regardless of the number of network attachment point changes, and a lower protocol layer refers to the current network attachment point, and,

wherein the application layer is unaware of network attachment point changes.

2. (Canceled)

3. (Currently Amended) The computer-readable medium of claim [[2]] 3, wherein each identification of a network attachment point comprises an Internet protocol (IP) address.

4. (Original) The computer-readable medium of claim 1, wherein each network attachment point change event subscription comprises identification of a network attachment point that has attached a communications peer with which the network attachment point change event subscriber has at least one active communication connection.

5. (Previously Presented) The computer-readable medium of claim 1, wherein the at least one network attachment point change event publication comprises:

a first network attachment point change event publication from a first network attachment point change event publisher; and

a second network attachment point change event publication from a second network attachment point change event publisher; and

matching the first network attachment point change event to each network attachment point change event subscription comprises:

determining that the network attachment point change event subscription was placed by the second network attachment point change event publisher; and

determining that the second network attachment point change event occurred within a time interval of the first network attachment point change event.

6. (Original) The computer-readable medium of claim 1, wherein matching the network attachment point change event to the network attachment point change event subscription comprises determining that the network attachment point change event subscription was placed by a subscriber with a private network address.

7. (Original) The computer-readable medium of claim 1, wherein the method further comprises, for each network attachment point change event subscriber, determining if the network attachment point change event subscriber has a private network address.

8. (Original) The computer-readable medium of claim 7, wherein:  
each network attachment point change event subscription comprises a network attachment point change event subscriber notification address; and  
determining if the network attachment point change event subscriber has a private network address comprises determining if the network attachment point change event subscriber notification address is in accord with the public source of the network attachment point change event subscription.

9. (Currently Amended) A computer-readable medium storing computer-executable instructions for providing a virtual connectivity subscribe-notify service with virtual connectivity to perform a method on a computing device comprising:

sending a subscribe message to the virtual connectivity subscribe-notify service subscribing to at least one network attachment point change event published by a remote peer, the at least one network attachment point change event comprising a change in a network address of the remote peer;

receiving a notify message from the virtual connectivity subscribe-notify service notifying of a network attachment point change event published by a remote peer; and

synchronizing a previous network address entry associated to a previous network attachment point of the remote peer in a locally stored local connection translation table with a corresponding current network address entry associated to a current network attachment point of the remote peer,

wherein an application layer continuously refers to the current network attachment point by referring to the previous network attachment point, wherein the application layer is unaware of attachment point changes.

10. (Original) The computer-readable medium of claim 9, the method further comprising sending a publish message to the virtual connectivity subscribe-notify service publishing a network attachment point change event.

11. (Original) The computer-readable medium of claim 10, wherein the publish message comprises:

an identifier of a previous network attachment point; and  
an identifier of a current network attachment point.

12. (Canceled)

13. (Previously Presented) The computer-readable medium of claim 9, wherein the notify message comprises:

an identifier of a previous network attachment point of the remote peer; and  
an identifier of a current network attachment point of the remote peer.

14. (Previously Presented) The computer-readable medium of claim 9, the method further comprising:

sending a publish message to the virtual connectivity subscribe-notify service  
publishing a local network attachment point change event.

15. (Previously Presented) The computer-readable medium of claim 9, wherein:  
the virtual connectivity subscribe-notify service is located in a public address space; and

the subscribe message is sent from a private address space.

16. (Previously Presented) The computer-readable medium of claim 9, the method further comprising:

as a result of receiving the notify message, sending a Connection Update Request message to the remote peer requesting a Connection Update message from the remote peer.

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Currently Amended) A computing device for providing a virtual connectivity subscribe-notify service with virtual connectivity comprising:  
a processor; and

memory coupled to the processor, the memory comprising computer-program instructions executable by the processor for:

sending a subscribe message to the virtual connectivity subscribe-notify service subscribing to at least one network attachment point change event published by a remote peer, the at least one network attachment point change event comprising a change in a network address of the remote peer; [[and]]

receiving a notify message from the virtual connectivity subscribe-notify service notifying of a network attachment point change event published by a remote peer; and

synchronizing a previous network address entry associated to a previous network attachment point of the remote peer in a locally stored local connection translation table with a corresponding current network address entry associated to a current network attachment point of the remote peer,

wherein an application layer refers to the current network attachment point by referring to the previous network attachment point and a lower protocol layer refers to the current attachment point.

26. (Previously Presented) The computing device of claim 25, further comprising sending a publish message to the virtual connectivity subscribe-notify service publishing a network attachment point change event.

27. (Previously Presented) The computing device of claim 25, wherein the publish message comprises:

an identifier of a previous network attachment point; and

an identifier of a current network attachment point.

28. (Previously Presented) The computing device of claim 25, wherein the notify message comprises:

- an identifier of a previous network attachment point of the remote peer; and
- an identifier of a current network attachment point of the remote peer.

29. (Previously Presented) The computing device of claim 25, further comprising:

sending a publish message to the virtual connectivity subscribe-notify service publishing a local network attachment point change event.

30. (Previously Presented) The computing device of claim 25, wherein:  
the virtual connectivity subscribe-notify service is located in a public address space; and

the subscribe message is sent from a private address space.

31. (Previously Presented) The computing device of claim 25, further comprising:

as a result of receiving the notify message, sending a Connection Update Request message to the remote peer requesting a Connection Update message from the remote peer.